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13. ABSTRACT (Maximum 200 words) The overall objective of this study is to improve our understanding of the lipid dependent biochemical processes involved in breast cancer development, in order to develop more effective diet based cancer prevention strategies. We have shown previously that alterations in dietary lipid can significantly influence the development of mammary tumors. The experiments in this project are designed to explore to what extent, if any, dietary lipid manipulations may influence the expression of these IGF receptors and their binding proteins in two different mammary tumor models. During the initial part of the first year of this grant we hired the personnel, and developed the protocols and techniques to be used throughout the study. Later, we transplanted R-3230AC mammary tumors into F-344 rats maintained on four diets of different lipid composition. We also attempted to induce mammary tumors using NMU in similar diet treated animals. The tissues from these animals have been collected, and are now undergoing biochemical analysis.				
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William. C. G. Jr. 10/25/95
PI - Signature Date

INTRODUCTION:

The following report summarizes the effort expended during the first year of grant funding. A considerable portion of the initial funding period was used to hire personnel, and functionally implement the protocols and equipment to be used throughout the study period.

BODY:

During the initial several months Mr. Joseph Jurkowski was hired as the chief technician on the project. Subsequently, the appropriate dietary materials were ordered and quality control measures established for the preparation of the diets. Subsequently, two experiments were carried out using four individual diets: 20% Corn Oil, 5% Corn Oil, 19% Fish Oil + 1% Corn Oil, and 4% Fish Oil + 1% Corn Oil. In the first study F-344 female rats were placed on their respective diets and then transplanted with the R3230AC mammary tumor. When the tumors reached appropriate size the animals were killed and their tumors, livers, and sera collected and stored at -85 deg. C. Subsequently, in a second experiment NMU was intravenously infused into 50 day old F-344 female rats who were then placed into groups receiving the above described diets. The rats were killed after 24 weeks and their tissues collected as previously. Currently, these tissues are now being biochemically analyzed and additional rats are being prepared for future study.

CONCLUSION:

During the first year of this grant we have established the required personnel, equipment, and methodology. Initial studies have been carried out, and the tissues obtained from these experiments are currently undergoing analysis.